REMARKS

Examination of the claims, as amended, is respectfully requested.

Claims 14 – 29 have been added to better provide the scope of protection to which Applicant is entitled. Claims 1 and 11 have been amended to more clearly describe the invention. The amendments to the claims have been made relative to the previously unentered amendment of June 28, 2002:

It is respectfully submitted that the claims, as amended, should be found to be patentable over the cited art and that the case should be passed to issue in due course.

The Commissioner is authorized to debit any necessary fee or credit any overpayment relating to the above-identified application to Deposit Account No. 08-0219.

Respectfully submitted,

Date: 8/30/02

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Claims As Amended

1.   A method for managing work processes comprising:

instantiating project models as instances of a work process model comprised of interdependent decisions, to which said project models conform,

rendering said process models as elements of a computer-based system in support of the work process, and

rendering said project models as elements of a computer-based system in support of the work process.

2.   A computer implemented method for modeling work processes comprising

instantiating a plurality of objects by abstract or concrete classes, and including at least a decision class and a data class,

relating each decision object to one or more data objects which it produces,

requiring, for at least one decision object, at least one data object as a prerequisite to its activation or completion thereby establishing an interdependence between the decision object requiring said data and the decision object providing said data, and

optionally generating additional subclasses or instances of said decision and data classes.

3.   The method of claim 2 further comprising relating an arc or link class linking a first decision with a second decision.

4.   The method of claim 2 further comprising

generating a decision role class specialized into at least two subclasses, each with

differing behaviors, and

defining for each decision role class the communication requirements among the

incumbents of roles participating in a decision, the rights of each such role class

incumbents with respect to (a) entering data elements in a database, (b) modifying elements in a

database and/or (c) reading elements from a database.

5.   A computer implemented method for traversing networks including nodes and

directed arcs comprising

utilizing messaging between said nodes and arcs and collections of said arcs, and

determining the membership of said collections by at least one of their entry

nodes and exit nodes.

6.   A computer implemented method of modeling and managing decision-making

work processes among a plurality of participants comprising

using a network whose nodes are abstract decision situations, and

providing arcs directed by decisions based on logical precedence.

7.   The method of claim 6 further comprising

requiring nodes to support participation of multiple persons in differentiated roles.

8.   The method of claim 7, further comprising

requiring that incumbents of exactly one differentiated role make a choice

modeled by an abstract decision situation, and

requiring that the incumbents of a second differentiated role have notice, elapsed time and access to the incumbent of the first role prior to the incumbent of said first role having made said choice,

requiring that the incumbents of a third differentiated role have the opportunity to inspect the results of the choice made by the incumbent of the first role after said choice, and to accept or reject said results, with or without reference to established criteria, and

requiring that the incumbents of a fourth differentiated role have timely notice of the results of the choice made by the incumbent of the first role after said choice.

9.   The method of claim 8, further comprising

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requiring that the incumbents of a fifth differentiated role have the opportunity to inspect the results of the choice made by the incumbent of the first role after said choice, and to accept or reject said results according to its conformance or non-conformance to established criteria.

10.   The method of claim 1, further comprising

using said process models to instantiate project models, and

using said process and project models to manage, direct, and control the work of the process.

11.   The method of claim 2 further comprising

        providing a rule class as a subclass of the data class,

        providing that instances of said rule class may be specified by a concrete decision

class for use to completely determine the result of instances of said decision class by choosing

the value of its associated decision's data object, and/or

        contingently determine (i) the associated decision objects' requirement for some

other specific data object, (ii) the associated decision objects' association with a specific role

object, (iii) the incumbent of a specific role object associated with said decision object, and/or

(iv) the use of a different rule object associated with said decision object.

12.   A computer implemented method for managing work processes comprising

        instantiating project models as instances of a decision process model comprised of

interdependent decisions, to which said project models conform,

        modeling processes using an extensible, object-oriented framework, and

        mapping plural participants in the process using objects representing abstract and

concrete classes as elements of said framework.

13. (Amended) A computer implemented decision-making method for traversing work process models including nodes and directed arcs connecting said nodes comprising

initializing all directed arcs and arc collections with an inactive state,

activating an entry collection of directed arcs which share a common entry node upon completion of the entry node's function,

activating all members of said entry collection upon activation of said entry collection,

activating an exit collection of directed arcs which share a common exit node upon activation of any member of said exit collection, and

testing, upon activation of said exit collection, other members of said exit collection for said member's active/inactive state and if any member of said exit collection is inactive, then stop testing and return said exit collection to its inactive state, and otherwise, if all members have tested active, activate their common exit node.

14. A method for managing work processes comprising

using an object-oriented application framework to build and configure decision process models comprised of interdependent decisions,

rendering said process models as elements of a computer-based system in support of the work process,

instantiating project models as instances of said process models, and

rendering said project models as elements of a computer-based system in support of the work process.

15. The method of claim 14 further comprising

rendering said process models as directed graphs, whose nodes are abstract classes modeling decisions, and whose directed arcs or edges model dependencies between the nodal classes, and

rendering said project models as a partition of the graph of the instantiating process, where such partition is defined by a specified node from the process graph and all and only those other nodes that are dependent on said specified node.

16. A computer implemented method for traversing work process network models which are composed of nodal objects and directed arc objects connecting said nodal objects comprising

setting the state of every said directed arc object based upon the state of the nodal object at the initial or entry node of said directed arc object,

testing the state of every directed arc object in a collection of directed arc objects, when any directed arc object in said collection changes state, where the members of said collection are all and only those directed arc objects which have the same terminal or exit node, and

setting the state of the nodal object at the terminal or exit node of a collection of said directed arc objects based on the collective states of all members of the collection, where the members of said collection are all and only those directed arc objects which have the same terminal or exit node.

17. A computer implemented method of modeling and managing work processes comprising

using a network or graph whose nodes are abstract decision situations representing choices to be made, which choices are modeled by concrete decision classes and by instances of those classes, and

- 13 -

providing arc objects directed in each instance by the ordered pair of concrete decision classes associated with each arc object, where the entry or initial member of said ordered pair produces the data result required by the exit or terminal member of said ordered pair.

18. The method of claim 17 further comprising requiring each concrete decision class to support participation of multiple persons in differentiated roles.

19. The method of claim 18, further comprising

requiring that incumbents of-one differentiated role associated with a concrete decision class, make-the choice modeled by-said concrete decision class, and

requiring that the incumbents of a second differentiated role associated with a concrete decision class, have notice, elapsed time and access to the incumbent of the first role prior to the incumbent of said first role having made said choice,

requiring that the incumbents of a third differentiated role associated with a concrete decision class, have opportunity to inspect the results of the choice made by the incumbent of the first role after said choice, and to accept or reject said results without or without reference to established criteria, and

requiring that the incumbents of a fourth role associated with a concrete decision class, have timely notice of the results of the choice made by the incumbent of the first role after said choice has been made.

20. The method of claim 19, further comprising requiring that the incumbents of a fifth differentiated role associated with a concrete decision class, have the opportunity to inspect the results of the choice made by the incumbent of the first role after said choice, and to accept or reject said results, but only according to its conformance or non-conformance to established criteria.

21.   An object-oriented application framework for building work process models comprising

an abstract, extensible decision class which encapsulates the common attributes and methods needed to model a decision or choice to be made,

an abstract, extensible data class which encapsulates the common attributes and methods needed to model the data result produced by the decision which is modeled by the abstract decision class, or alternatively,

a single abstract, extensible class which combines the attributes and methods of said abstract decision and data classes.

22.   The framework of claim 21 further comprising a concrete directed arc class, which encapsulates the attributes and methods needed to model the dependency relationship between concrete decision classes, or instances of those classes, at the nodes of the directed arc instances, where such dependency arises from the requirement by one decision, the terminal or exit decision, for data produced by another decision, the initial or entry decision.

23.   The framework of claim 22 further comprising an abstract decision role class which encapsulates the common attributes and methods needed to model the participation of people in a decision modeled by a concrete decision class.

24.   The framework of claim 23 further comprising a concrete decision manager class as one specialization of the decision role class, where the role modeled by said decision manager class has the right to make the decision or choice modeled by the associated concrete decision class.

25.   The framework of claim 24 further comprising a concrete approver class as an

- 15 -

additional specialization of the decision role class, where the role modeled by said approver class has the right to veto said decision or choice.

26.   The framework of claim 25 further comprising a concrete consultee class as an additional specialization of the decision role class, where the role modeled by said consultee class has the right to an opportunity to influence the decision or choice before said choice is made, but not the opportunity to veto said decision or choice.

27.   The framework of claim 26 further comprising a concrete informee class as an additional specialization of the decision role class, where the role modeled by said informee class has the right to be timely informed of the result of making said decision or choice , and

28.   The framework of claim 27 further comprising a concrete inspector class as an additional specialization of the decision role class, where the role modeled by said inspector class has the right to veto said decision or choice, but only as it fails to meet established criteria.

29.   The framework of claim 28 further comprising a concrete rule class as a specialization of the data class, where an instance of said rule class may be specified by a concrete decision class for use in (a) making the decision or choice modeled by said decision class, (b) contingently determining the dependency of the decision modeled by said decision class on the result modeled by some other concrete decision class, or (c) contingently determining the participation and role of persons in the decision or choice modeled by said concrete decision class.